

Angle Art Studio

4th Grade Math Project · Art & Geometry

Grade 4 · Advanced

Name: Date: Class:

The Challenge

The art studio needs a new piece for its math gallery. You are the artist, and your tools are a ruler, a protractor and everything you know about geometry.

You will make: Geometric Art Piece

What you will learn

- Draw and identify points, lines, rays, segments, parallel and perpendicular lines.
- Measure, draw and classify angles.
- Add angle measures to find unknown angles.
- Classify shapes and draw lines of symmetry.

Materials

- Ruler
- Protractor
- Blank paper
- Colored pencils or markers

How to do it

1. Part 1: Lines in Your Art
2. Part 2: Measure and Classify Angles
3. Part 3: Angles That Add
4. Part 4: Shapes and Symmetry
5. Check your work and share your geometric art piece.

Part 1: Lines in Your Art

Start your artwork with these parts. Use a ruler.

1. Draw and label: a point, a line, a line segment and a ray.

2. Draw a pair of parallel lines and a pair of perpendicular lines. How are they different?

Part 2: Measure and Classify Angles

Use a protractor to draw angles with these measures: 35°, 90°, 145°, 180°.

3. Classify the 35° angle.

4. Classify the 90° angle.

5. Classify the 145° angle.

6. Classify the 180° angle.

7. A dial turns $\frac{5}{12}$ of a full circle. How many degrees is that?

Part 3: Angles That Add

In your art, a 180° angle is split into two angles. One of them measures 65°.

8. What is the measure of the other angle? Write an equation.

9. 3 angles share a vertex and do not overlap. They measure 38°, 67°, 49°. What is the measure of the whole angle?

10. Is the whole angle acute, right, obtuse or straight?

Part 4: Shapes and Symmetry

Add these four shapes to your art. Draw every line of symmetry with a dashed line.

Shape	Angles and sides
square	4 right angles, 2 pairs of parallel sides, 4 lines of symmetry
rectangle (not a square)	4 right angles, 2 pairs of parallel sides, 2 lines of symmetry
equilateral triangle	3 acute angles, no parallel sides, 3 lines of symmetry
right triangle with sides of different lengths	1 right angle, 2 perpendicular sides, 0 lines of symmetry

11. How many lines of symmetry does a square have?

12. How many lines of symmetry does a rectangle (not a square) have?

13. How many lines of symmetry does a equilateral triangle have?

14. How many lines of symmetry does a right triangle with sides of different lengths have?

15. Sort your shapes: which have at least one pair of parallel sides?

16. Finish your art piece. Label 3 angles with their measures.

⭐ Extension Challenge

Four angles meet at a point and fill the full circle. Three of them measure 85°, 110° and 95°. Find the fourth angle and classify it.

How your project will be scored

Category	4 Excellent	3 Good	2 Developing	1 Beginning
Math accuracy	All answers correct	Most answers correct	Some answers correct	Few answers correct
Shows work	Clear work for every step	Work for most steps	Some work shown	Little work shown
Explains thinking	Clear, complete explanations	Mostly clear explanations	Some explanation	Little explanation
Final product	Complete, neat and creative	Complete and neat	Partly complete	Not complete